



# WORKING WITH USTDA AND ENERGY SECTOR CONTRACTING OPPORTUNITIES FOR U.S. COMPANIES

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[WWW.USTDA.GOV](http://WWW.USTDA.GOV)

# U.S. Trade and Development Agency

## Mission Statement

USTDA helps companies create U.S. jobs through the export of U.S. goods and services for priority development projects in emerging economies

USTDA links U.S. businesses to export opportunities by funding project planning activities, pilot projects, and reverse trade missions while creating sustainable infrastructure and economic growth in partner countries





# USTDA Program Activities

Matching U.S. Commercial Interests  
with Development Opportunities

## **International Business Partnership Program**

- Reverse Trade Missions
- Conferences
- Workshops

## **Project Development Program**

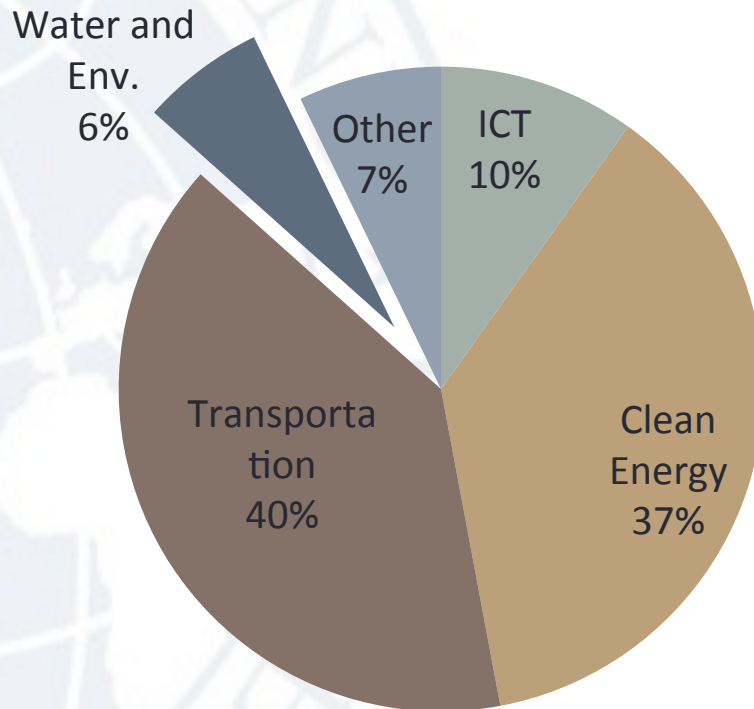
- Feasibility Studies
- Pilot Projects
- Technical Assistance

# USTDA Funding Criteria

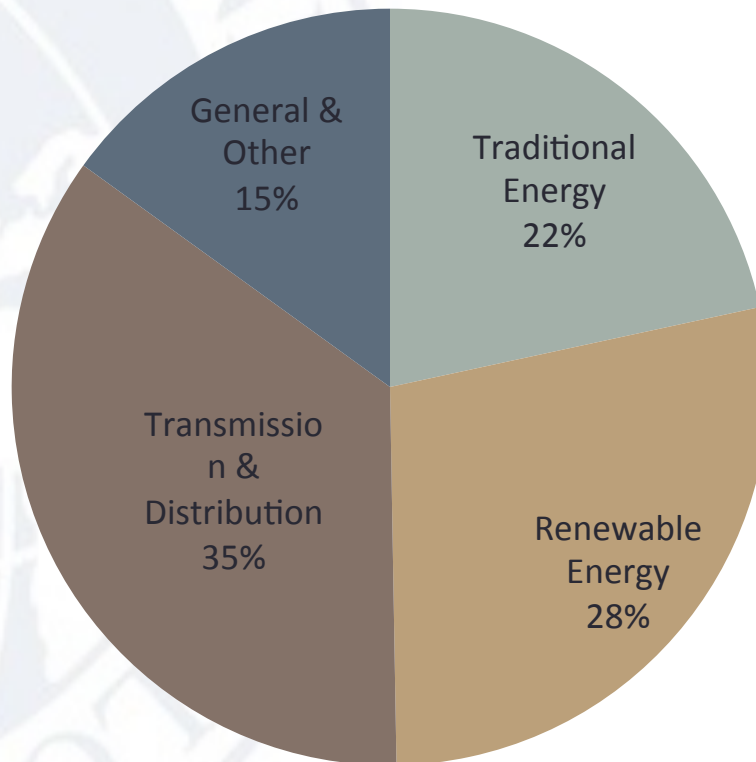
USTDA evaluates projects based on the following criteria:

- Developmental priority in the host country
- Likelihood of success receiving implementation financing
- Mutual benefits for the United States and partner country, including commercial opportunities for U.S. firms

# USTDA's Program Obligations in FY 2012



# USTDA's Clean Energy Obligations in FY 2012





# USTDA Definitional Mission and Desk Study Consultancy Contracts

USTDA requires expert technical and financial reviews of emerging market infrastructure and other projects for potential USTDA funding.

- ❖ In Fiscal Year 2012, USTDA contracted for
  - 48 Desk Studies
  - 28 Definitional Missions
  - over \$2 million combined contract value
- ❖ ALL DM/DS CONTRACTS ARE RESERVED FOR SMALL BUSINESSES

## ❖ Definitional Mission

- Requires overseas travel of approximately one to two weeks
- Requires developing typically two to five scopes of work and budgets for recommended USTDA assistance
- Contract Value \$30,000 to \$80,000

## ❖ Desk Study

- Review of a single full-fledged proposal, no travel
- Contract Value \$3,500 to \$12,000



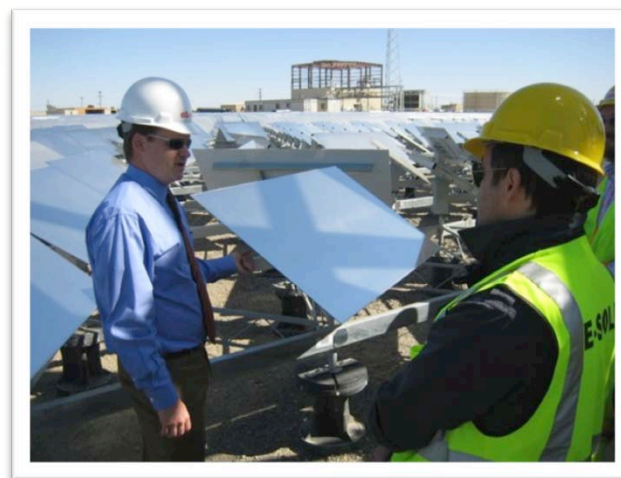
# USTDA Contracting Opportunities

**To be considered for a direct definitional mission or desk study contract with USTDA:**

- Register with USTDA's on-line consultant database at [www.ustda.gov](http://www.ustda.gov) **AND** the Federal Government's Central Contractor Registration database at [www.ccr.gov](http://www.ccr.gov).
- Bid on opportunities that are posted to the Federal Business Opportunities website at [www.fbo.gov](http://www.fbo.gov).

# USTDA and Renewable Energy

- USTDA funds activities in several types of renewable energy:
  - Solar
  - Wind
  - Geothermal
  - Biomass/Waste-to-Energy
  - Hydropower
  - Fuel Cells



# Examples of Recent USTDA Renewable Energy Activities

- Colombia 20 MW Waste-to-Energy Plant at El Guacal Landfill Feasibility Study
- Southern Africa Solar Power Reverse Trade Mission
- Mexico Baja California Wind Power Feasibility Study
- Philippines First Gen Cabadbaran Run-of-River Hydroelectric Project Feasibility Study
- China Fuel Cell Applications for Telecommunications Feasibility Study and Pilot Project
- Turkey Alasehir Geothermal Power Plant Feasibility Study

# Traditional Energy and Power



Since 1981, USTDA has provided nearly \$130 million in support of traditional energy and power projects, with U.S. exports valued at over \$4.7 billion.

## **Oil and Gas:**

Oil and Gas Exploration & Development

Storage & Pipelines

CBM/CMM

Refinery & Petrochemicals

## **Power:**

Gas-Fired Power

Coal-Fired Power

# Energy Sector

## Recent Desk Studies:

### Renewables

- China: Waste to Energy Pilot Project
- Jordan: Photovoltaic Solar Plant
- Nigeria: Hydropower Development

### Power Generation

- Nigeria: Shiroro-Egbin Power Plants

### Oil and Gas

- India: Shale Gas Studies
- Iraq: Basra Refinery Rehabilitation
- Nigeria: Western Nigeria Gas Pipeline
- Turkey: Coalbed Methane Extraction and Utilization

### Transmission and Distribution

- China: Integrated Smart Grid Communications
- Philippines: Rural Electrification Distribution Improvement and Financing
- Turkey: Smart Grid Applications

## Recent Definitional Missions:

### Renewables

- Brazil: Renewable Energy Opportunities
- Columbia: Renewable Energy and Energy Efficiency
- Sub-Saharan Africa: Geothermal

### Power Generation

- Ghana: Power Sector Development
- Mongolia: Mining and Energy Generation

### Oil and Gas

- Colombia & Mexico: Coal Mine Methane/Coal Bed Methane Projects
- Kazakhstan & Azerbaijan: Gas Utilization and Coal Bed Methane

### Transmission and Distribution

- India: Smart Grid and Energy Efficiency
- Morocco: Transmission and Distribution



# Contact USTDA

## U.S. Trade and Development Agency

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# Definitional Missions

Presented to:

**The U.S. Trade & Development Agency**

Presented by: Stephen H. Lucas

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# DM Characteristics



- Technically Challenging
- Demanding Deliverables
- Short Schedules
- Tight Budgets
- Complex Logistics
- Extraordinarily Interesting
- Increases DM Consultant Capabilities

# Successful DMs



- Don't Just Happen
- They Are Planned and Managed
- Key Interactions:
  - Country Manager
  - Embassy Personnel
  - In-Country Experts
  - Potential Grantees
  - Network of Experts in Government and Industry
- The DM Expands Opportunities for Exports

# Keys to Success



- Well Developed DM Work Plan
- Thorough In-Country Phase
- Technical & Economic Assessment
- Clear Concise Understandable DM Report
- An Unambiguous Recommendation to Fund or Forego the Proposed Activity

# DM Work Plan



- Begins with the Proposal
  - Background on Country/Industry
  - Explanation of DM Strategy and Aims
  - DM Work Plan
- After Award Refined with Country Manager
- Updated through Networking
- Made Real with Help of Commercial Service
- Adjusted During In-Country Phase
- Concluded with DM Report

# In-Country Phase



Name	Position
<b>U. S. Government</b>	
Larry Napper	U.S. Ambassador
Daniel Russell	DCM
James Fluker	Senior Commercial Officer - FCS
Glenn Anders	Director USAID
<b>Grantee Contacts</b>	
Vladimir Shkolnik	Ministry of Energy, Industry and Trade
Andar Shukputov	Ministry of Natural Resources and Protection of the Environment
To be determined	Kazakhstan Petrochemical Company
<b>Other Kazakh Contacts</b>	
Diana Brett	AmCHAM
	To be determined
<b>Private Companies</b>	
Chevron Texaco	To be determined
Exxon Mobil	To be determined
Phillips	To be determined
Halliburton	To be determined
<b>Multi-lateral Banks</b>	
Kadir Tanju Yurukoglu	World Bank / International Bank For Reconstruction And Development
Paul Burton	European Bank For Reconstruction and Development
Peter Choynowski	Asian Development Bank
John Owens	Central Asian-American Enterprise Fund

- Commercial Service Help is Essential – Recommend Gold Key
- Pack Your Schedule – no Down Time
- Build Relationships with Potential Sponsors/Grantees
- Be Diplomatic in all Interactions
- Communicate Carefully and Clearly
- Help Refine the Sponsor's Concept
- DM is not the Gate Keeper
- DM Should be a Positive Facilitator of Success



# Assess Sponsor



- Project Development Capability
- Technical Understanding and Skill Set
- Ability to Secure Financing
- Support from Host Government
- Likely Above Board in Dealings

# Technical Assessment



Figure A.3 - Possible Process Scheme for  
Tengiz and Kashagan

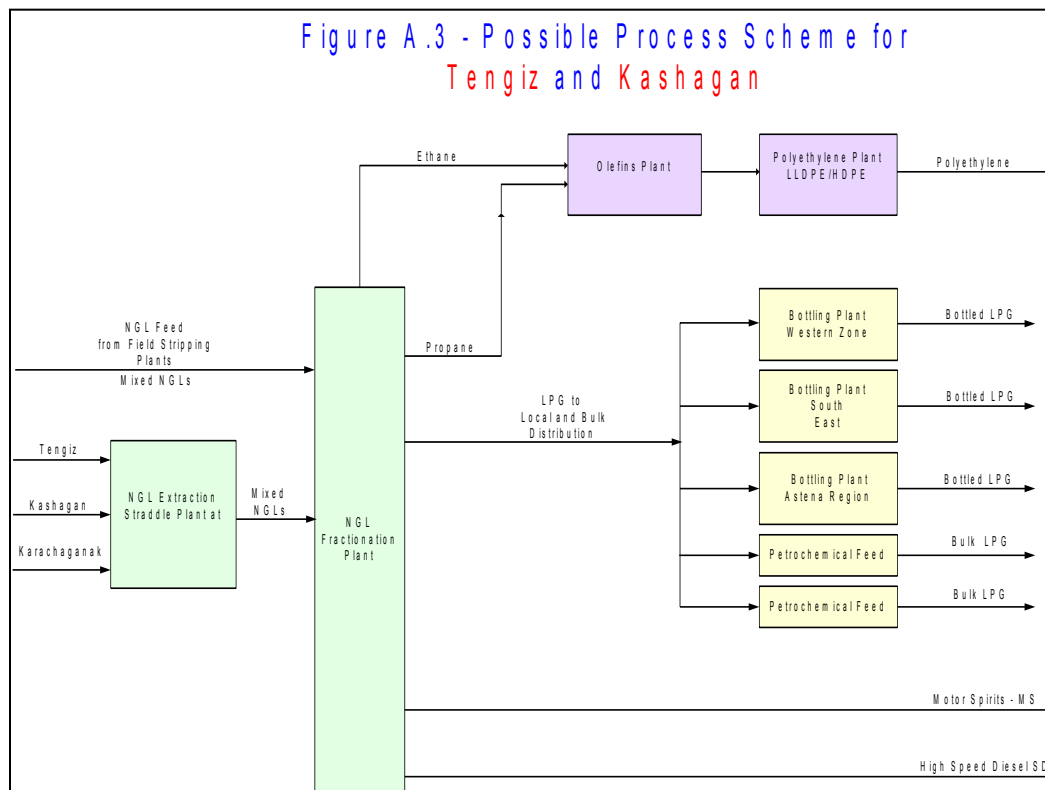


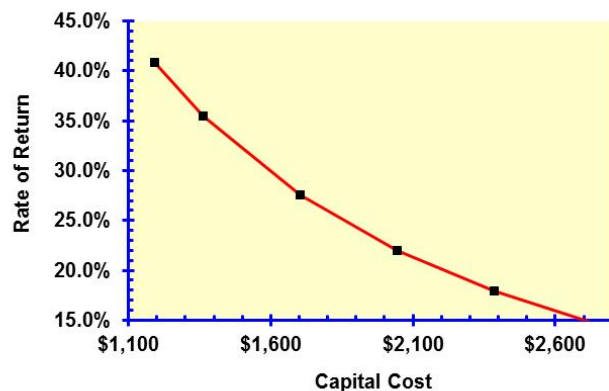
Table A.2 - Summary of Ultimate Yields for Ethane / Propane Feed to Cracker for Tengiz

Feed Stock	% of NGL Available	Feed MTA	Yield of $C_1H_4$		Yield of $C_2H_6$		Yield of $C_3H_8$		Yield of $C_4+$	
			% Yield	MTA	% Yield	MTA	% Yield	MTA	% Yield	MTA
Ethane	100%	942,441	13.30	125,345	77.40	729,449	2.60	24,503	6.70	63,144
Propane	100%	711,110	27.70	196,977	42.50	302,222	14.30	101,689	15.50	110,222
LPG	0%	0	24.50	0	35.00	0	15.70	0	24.80	0
MS	0%	0	17.60	0	31.60	0	14.80	0	36.00	0
HSD	0%	0	15.00	0	27.00	0	13.20	0	44.80	0
<b>Totals</b>		<b>1653551</b>		<b>322,322</b>		<b>1,031,671</b>		<b>126,192</b>		<b>173,366</b>
<b>Polymer</b>										
Polyethylene	95%									
						<b>980,088 MTA</b>				

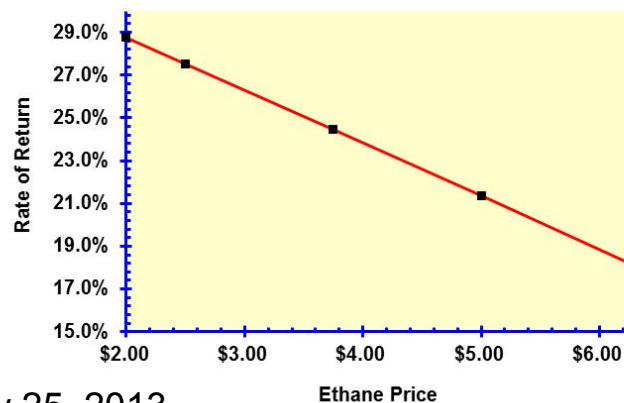
# Economic Assessment



**Sensitivity to Capital Cost**



**Sensitivity to Ethane Price**



**Cash Flow Analysis - Base Case  
Olefin Plant with PE & Ethane Recovery  
Guidance Parameters  
Third-Year of Operations**

**CAPITAL REQUIREMENTS**

First Year of Operation	2008
Ethylene Capacity MTA	1,031,671
ISBL Process Units	(677.93)
Offsite Facilities	(227.85)
Ethane Fractionation Plant	(30.71)
Adjust for Kazakhstan	(374.59)
Estimating Allowance	(393.32)
Total Installed Cost	(1,704.40)
Import Duties	10%
Value Added Tax	15%
Working Capital	(71.3)
Start-up Costs	(49.9)
<b>TOTAL CAPITAL EXPENDITURES</b>	<b>(2,149.38)</b>

**DEBT FINANCING**

Interest During Construction	9.00%
Amount Borrowed	70.00%
Loan Balance 3rd Year of Operations	(1,514.82)
Interest Payment Rate	7.00%
Annual Payments Years	10

**PLANT FACTORS**

Ethylene Capacity MTA	1,031,671
PE Capacity MTA	980,088
C2/ C3 as Sinkage @ \$/MMBtu	2.50
<b>CASH OPERATING MARGIN</b>	508.35
Depreciation in Years	10
Interest on Loan	(106.04)
Taxable Income	231.87
Taxes before credits Rate	35.0%
Tax credits	0
<b>Net Payable Taxes</b>	<b>(81.16)</b>
Income after Taxes 3rd Year	150.72
Depreciation	170.44
Principal Payment	(147.65)

**THIRD-YEAR RESULTS**

<b>AFTER-TAX CASH FLOW</b>	173.51
<b>NET PRESENT VALUE EQUITY</b>	786.27
<b>INTERNAL RATE OF RETURN</b>	27.54%

# Assess Export Validity



- Contact Primary Vendors
- Determine their Inclination to Bid
- Estimate US Content:
  - Manufacturing
  - Services

# Exports & Developmental Impact



U.S. Export Potential									
In \$ millions									
Commodity	Total Fixed Capital	US Export Portion	Estimated Local Content	Estimated Foreign Content	US Competi- tiveness	Estimated High US Comp.	Estimated Realistic US Comp.	Overall Export Summary	
								US Manufacturing Exports	\$533,733,378
								Labor Portion	\$373,613,364
								Average Loaded Labor	\$26
								Person Hours	14,369,745
								Person Years	7,983
Total Fixed Capital	\$1,704	\$966	\$467	\$272		\$828	\$731		
Requirements								Technical Service Exports	
								Engineering	\$194,301,789
Procurement								Environmental Services	\$3,408,803
Process Equipment	\$716	\$501	\$36	\$179	B+	\$426	\$376	Total Services	\$197,710,592
Engineered Commodities	\$239	\$119	\$48	\$72	B	\$95	\$84		
Construction Supervision	\$366	\$55	\$311	\$0	A	\$49	\$44	Total Exports	\$731,443,970
Civil	\$34	\$5	\$29	\$0	C	\$4	\$4		
Other	\$85	\$38	\$38	\$9	C	\$31	\$27		
								Person Hours Services	
Services								Engineering	2,590,691
								Environmental Services	37,876
Engineering & Technology	\$256	\$243	\$0	\$13	A	\$219	\$194	Total Technical Person Hours	2,628,566
Environmental	\$9	\$4	\$4	\$0	A	\$3.83	\$3.41	Person Years Services	1,460
								Total Person Years	9,444

# DM Report



- DM Report is in substance a Pre-Feasibility Study
- Many Audiences – DM Report Must Communicate to:
  - Sponsors/Grantees
  - USTDA/Other Government Agencies
  - Financial Entities
  - Feasibility Contractor
- Conveys DM Perspective
- Term of Reference and Estimate
  - Provides Context
  - Defines Deliverables
  - Guides Work Processes



# DM Recommendation



- USTDA Does not Seek a Positive or a Negative Recommendation
- USTDA Seeks a Recommendation that is Well Reasoned and Supported by the Analyses
- The Recommendation Must be Unambiguous and Defensible

# If You want to Be a DM



- Visit USTDA Library - Review DM and FS Reports
- Develop a Working Knowledge of a Region
- Get to Know the Country Manager(s)
- Begin a List of Networking Sources
- Learn International Financing Processes
- Develop Web Resources
- Assemble Easy to Work with Qualifications
- Prepare a Draft Proposal or Two
- Find a Project for Which You Qualify and Propose

# Substantial Benefits



- Among the Most Challenging and Interesting Assignments in Industry
- Develop International Relationships at High Levels
- Tangible Work Products
- Increased Experience Leading to Larger Projects Such as Feasibility Studies
- Expanded Skill Sets

# Contact Information



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